Daily GLOWBUGS

Digest: V1 #47

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

AB4EL Ham Radio Homepage @ SunSITE

%%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%%

Subject: glowbugs V1 #47
glowbugs Saturday, May 31 1997 Volume 01 : Number 047

Date: Sat, 31 May 1997 07:30:52 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: BA Mobile (WAS: On switching P.S. to get B+ from 12VDC)

On this same topic of resurrecting stuff from old 2-way
FM mobile stuff, you know that a lot of the dealers and repair places
that handle FM mobile radios, have been junking old tube gear for
years and they usually THROW IT AWAY!

Many of these older tube FM radios had 6146 and 2E26 tubes in them.
I have seen some of these used tubes show up by the boxload
(truckload? Well that would be exaggerating and I've told you all a
MILLION times not to exaggerate, he he!!) at hamfests!

Recently at the Timonium fest for example, there was a guy that had
several boxes of 6146 and 6146A tubes on a table, and they obviously
came from old 2-way FM gear. Some of them looked pretty burned, but
he was selling them VERY cheap!

OK, Joe Ham doesn't usually want to use a set of these to re-tube his
rice burner, but for us BA/GB types, it is a good source for cheap
PA fire bottles. So next time you pass a 2-way shop,
go inside and ask! (or take a look in their dumpster if you are
courageous enough!)

72.5 de AF4K, Bry

On 30 May 97 at 16:15, A Redshirt spoke about On switching P.S. to
get B+ from 12 and said:

>
> Folks:
>
> As I threw away about fifteen G.E. MASTR PRO mobile

> power supplies last month, I though "I bet SOMEBODY...."
>
> Anyway, these things power the last of the tube-final type
> commercial FM two way stuff that Generous Eccentric
> produced. The torroid xfmr is about at big around as a Coke
> can; maybe 1 1/2' tall, and the unit would cause tubes like
> 5894s and 8072s to pound out up to one hundred watts
> (with two transformers; the single xfmr supply was good
> for 25-40 watts out the hole). Remember that this is ICAS
> rating.
>
> These power supplies ought to be available at most junk
> meets...er, Swap Fests for about $0.05 a pound. Two
> Phillips head screws, one connector, and the jewel is in
> your hand. Torroid, xsistors, filter caps, everything one
> needs for the ideal B.A. mobile!   One piece. Heat sink
> built in. Standard made-in-USA parts used throughout.
> Designed for PTT operation. Stack those Torroids, grab
> that 807, and kick some 'phone BUTT while mobile!!
>
> See also your local VHF/UHF FM types. Say "GE MASTR
> PRO mobile supplies wanted!", and stand back. There
> were literally *millions* of these things produced, and
> they would be excellent for the mobile B.A. amateur....
> And the FM guys will never realize what the resolute
> B.A.-type can accomplish with something like this that
> has little value to them...
>
> (I have specs, pinouts, blah blah blah, if there is sufficient
> interest...)
>
> de John
> occupant@ns.net
>
>
>
****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the interesting ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Sat, 31 May 1997 07:30:52 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Can I do anything with these?

Hi Ken,

Looks like you have the 12AT7 and the 12AX7 mixed up.

The 12AT7 is the more powerful of these two tubes as I recollect.

It is often used to drive two 6L6s in audio amplifiers whereas the
12AX7 is used for small signal pre-amplification at the front end.

On 30 May 97 at 16:32, Ken Gordon spoke about Re: Can I do anything
with these? and said:

> > 12AU7A
>
> Medium mu dual triode. Could be used as a low power transmitter.
>
> > 12AT7/ECC81
>
> High mu dual triode. Pretty small but would make a pretty good
> VFO/Cathode follower.
>
> > 12AX7
>
> High mu dual triode. Could run 7.5 watts as class B push-pull amp.
> if you push it a bit.

73, Bry
****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the interesting ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Sat, 31 May 1997 07:30:49 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

On 30 May 97 at 14:20, rdkeys@csemail.cropsci.ncsu.e spoke about
Weekend BA/GB/CWist funzies.....yes and said:

> Well, the weekend is here, and I need another reality check.....
>
> So, I will monitor 7050 and 3579 for activity, anytime after dark.

Hmmmm I called CQ quite a bit on 3579 last night but tere were a LOT
of weak signals jabbering away all over 3578-3580 kHz
and my peanut whistle was probably not heard. I will try daytime on
7050 kHz today and see who I can raise there. I have made one QSO on
the bug so far. It's fun!

72.5 de AF4K
****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the interesting ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Sat, 31 May 1997 07:30:51 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Using switching PS to get B+ from 12v -- ideas?

If you are interested in doing some "potting" or perhaps
plastic encapsulation like this, I can recommend that you try
some of the newer types of AUTO body BONDO that are out there.

I cannot guarantee what the RF characteristics of this
stuff might be BUT it is fun to use! We bought some
of this quick-setting bondo to repair a linoleum clad platform in the
back yard that my son uses to shoot hockey pucks.
It sets in 5-8 minutes and doesn't involve any mixing or hardeners.
Only trick is that it begins to start setting as soon as you open the
lid of the can! But what it forms looks a lot like epoxy or some
other harder plastic finish. VERY hard and firm!

On 30 May 97 at 16:45, Ray Mack spoke about Re: Using switching PS to
get B+ fr and said:

> Mike:
>   The old way to do it is OK as others have said. I might be
> inclined to swap Bob Duckworth for one of his transformers. These
> circuits usually run around 200 Hz and use a tape wound toroid.
> They are self excited oscillators.
>
>   A tape wound toroid is made by taking a very long piece of
> narrow, thin sheet steel and winding it like a flat spring into a
> toroid. The toroid is then encapsulated in plastic of some sort.
> The toroid is basically a normal power line transformer type core
> except it is toroid shaped.
>
>   These circuits have *NO* regulation. They basically convert
>
> the incoming voltage to a 50% duty cycle rectangular wave and use
> the winding ratio to step up the voltage. If the input voltage
> drops, the output voltage drops.
>
>   There are any number of circuits made by Maxim, Unitrode,
> Motorola, and just about every other semiconductor manufacturer that
> will provide for regulated DC-DC converters. These are basically
> the same thing as the classic circuit except they use a master
> oscillator and circuitry that varies the duty cycle to regulate the
> voltage out. These also tend to run in the supersonic range so the
> whine problems of the classic circuits are less. The size of the
> transformer is less also. A transformer for a 50KHz converter at
> 200 Watts will weigh less than a pound and fit in the palm of your
> hand.
>
>   You can make a more modern version of the classic circuit
>   by
> making a 50 KHz oscillator that drives a couple of IRF510 FET's in
> push-pull driving a transformer wound on a mix 26 toroid or on a 3B5
> pot core. Again, remember that you won't have any regulation in
> this situation. The regulation is probably not a problem for a
> firebottle rig.
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com
> Friendswood (Houston), TX
>

>
> _____ Reply Separator
> _____ Subject: Using switching PS to get
> B+ from 12v -- ideas? Author: mjsilva@ix.netcom.com (michael silva)
> at mails Date: 5/30/97 11:22 AM
>
>
> Hi all,
>
> I'm very interested in putting together a (semi) portable rig
> (current plans are three 5EA8s (sic) for receiver, 6EA8 and 6AQ5 for
> transmitter), and I'm thinking about how to get 300 or so volts out
> of a car battery. I know the old way to do it, but does anybody know
> enough about switching regulators to comment on the difficulty of
> doing it that way? Any parts or manufacturers recommendations?
>
****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the interesting ham radio resources at: *
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****

Date: Sat, 31 May 1997 07:30:50 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: FT243 to HC-6?

On 30 May 97 at 9:07, R. Eric Sluder spoke about FT243 to HC-6? and
said:

> Got a question for the group that has probably already been
> addressed before, but here it is again. Was there an adapter ever
> made to convert FT-243 to HC-6 pin spacing? I got my rocks from
> Phoenix xtals and want to use them in my DX-60 as well as my DX-20.
> I'd like to know before hunting for one at the next hamfest. Or, if
> you know of any homebrew methods? Any enlightenment would be
> appreciated.

Eric I had a bit of the same dilemma here.

With my new CPCW5 trasmitter from Vintage Radio Kit,
they supply it with a 7-pin tube socket for the crystals
which have little wires that fit just fine in that socket. However,
I wanted to use FT243 rocks too, si Just added a socket
nearby on the chassis and paralleled the wiring.

Now I can plug either crystal in!

BTW, if anyone is interested, Vintage Kit now has their own web page
at:

http://www.mnsinc.com/bry/vintage.htm

73 y'all!
Bry
****

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*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA  *
**  E-mail to:  bry@mnsinc.com                    *
*** See the interesting ham radio resources at:    *
**  http://www.mnsinc.com/bry/                    *
**************************************************
```

Date: Sat, 31 May 1997 07:30:51 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Can I do anything with these?

On 30 May 97 at 14:47, John Michael spoke about Re: Can I do anything with these? and said:
> Anyone
> here used the 6CL6 in an exciter stage?

Sure have! The Geloso VFO uses them to oscillate and drive a 5763 buffer. Many other xmtrs use em too.

> The 12AT/AU/AX tubes are
> all twin triodes, of various Gm. You could use them in a mike
> preamp stage in a transmitter.

Or as a VFO, buffer etc. They are also used a lot as speech amplifiers.

Bry in Maryland, AF4K

```
**************************************************
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA  *
**  E-mail to:  bry@mnsinc.com                    *
*** See the interesting ham radio resources at:    *
**  http://www.mnsinc.com/bry/                    *
**************************************************
```

Date: Sat, 31 May 1997 13:26:23 +0000
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: FT: Misc. Crystals

Hello glowbuggers/ba collectors...

I have the following crystals for trade:

In large holders with banana pins spaced 7/8"
2051, two-2057, 2075, 2103, 2143, 2670, 2716, 2747 Khz.

In large holders with .125 pins spaced 3/4"
2110, 2166, 2206, 2961, 3158.

In HC-6/U holders:
1854, 1856, 1858

I am interested in crystals in FT-243 holders in the following frequency ranges:
1800-1825, 1950-2000, 3300-3600 khz. TRADES only.

73,

E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: 860 tubes, WL-460 tubes
Butternut HF2V antenna, G-R test gear.....*

Date: Sat, 31 May 1997 9:24:47 -0400 (EDT)
From: JOHN SEHRING <JOHN_SEHRING.parti@ecunet.org>
Subject: RADIOTRON DESIGNER'S HANDBOOK CD-ROM & OTHER TUBE STUFF

To: glowbugs@www.atl.org

For those of you who've been looking for the `Radiotron Designer's Handbook', the CD-ROM version is now only *$29.95* from Old Colony Sound Lab's latest catalog. It's stock #CDRDH.

The catalog has bunches of books about tube: data, designing with, history of, from the US, England, Germany & Japan. The RCA Receiving ((RC-19) and Transmitting tube (TT-5) manuals are there. A reprint of Armstrong's `Operating Features of the Audion', first time explanation of vacuum tube operation.

They are in the do-it-yourself audio market, publish Audio Amateur and Speaker Builder magazines.

No connection with W2NSD! Ed Dell is the owner/publisher.

Catalog free from them at:

PO Box 243
Peterborough, NH 093458
 or

603.924.6371
 or

FAX 603.924.9467
 or

email: audiotech@top.monad.net

Me? A satisfied customer.

 -John Sehring (Fri, May 30, 1997 2:19 pm MT @Baker, Montana) UCC WB2EQG

Date: Sat, 31 May 1997 08:17:17 -0700
From: Robert Friess <Rfriess@ix.netcom.com>
Subject: WTB R1004, Grc109 Rcvr

I just received my very nice GRC109 transmitter and power supply from Fair. Unfortunately, no more receivers.

Does anyone have a receiver that they would like to sell. I would also consider a complete set. I would be happy to pay a premium for a nice one.

73,

Bob, N6CM

Date: Sat, 31 May 1997 08:19:16 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

> > So, I will monitor 7050 and 3579 for activity, anytime after dark.
>
> Hmmmm I called CQ quite a bit on 3579 last night but tere were a LOT
> of weak signals jabbering away all over 3578-3580 kHz
> and my peanut whistle was probably not heard. I will try daytime on
> 7050 kHz today and see who I can raise there. I have made one QSO on
> the bug so far. It's fun!

Heard a few weak signals on 7050 and one or two strong ones. Will try again tonight.

Ken W7EKB

Date: Sat, 31 May 1997 08:26:06 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: Can I do anything with these?

On Sat, 31 May 1997, Brian Carling, Radio AF4K wrote:

> Hi Ken,
>
> Looks like you have the 12AT7 and the 12AX7 mixed up.
>
> The 12AT7 is the more powerful of these two tubes as I recollect.

Don't think so. Handbook says use 100 volts on the plate of 12AT7, 300 on 12AX7. I have one of each in my hands at the moment. The 12AX7 plates are SUBSTANTIALLY larger than those of the 12AT7 and spaced much further away from its grids than the latter.

>
> It is often used to drive two 6L6s in audio amplifiers whereas the
> 12AX7 is used for small signal pre-amplification at the front end.
>

I dunno about that, although it could be...for other reasons than plate dissipation possibly.

Ken W7EKB

Date: Sat, 31 May 1997 08:33:12 -0700
From: Richard Wilkerson <richqrp@cts.com>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

Ken Gordon wrote:
>
> > > So, I will monitor 7050 and 3579 for activity, anytime after dark.
> >
> > Hmmmm I called CQ quite a bit on 3579 last night but tere were a LOT
> > of weak signals jabbering away all over 3578-3580 kHz
> > and my peanut whistle was probably not heard. I will try daytime on
> > 7050 kHz today and see who I can raise there. I have made one QSO on
> > the bug so far. It's fun!
>
> Heard a few weak signals on 7050 and one or two strong ones. Will try
> again tonight.
>
> Ken W7EKB
                                ****

I have also been looking for BA's on 7050 kc... So please listen for
me also...After dark.........
- --
        72's........ rich
Rich Wilkerson, WD6FDD, Santee, Ca.
 NorCal, ARCI, ScQRPions, E.C.R.A.

Date: Sat, 31 May 1997 08:49:23 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

On Sat, 31 May 1997, Richard Wilkerson wrote:

> Ken Gordon wrote:
> >
> > > > So, I will monitor 7050 and 3579 for activity, anytime after dark.
> > >
> > > Hmmmm I called CQ quite a bit on 3579 last night but tere were a LOT
> > > of weak signals jabbering away all over 3578-3580 kHz
> > > and my peanut whistle was probably not heard. I will try daytime on
> > > 7050 kHz today and see who I can raise there. I have made one QSO on
> > > the bug so far. It's fun!
> >
> > Heard a few weak signals on 7050 and one or two strong ones. Will try
> > again tonight.
> >
> > Ken W7EKB
>   *********
>
> I have also been looking for BA's on 7050 kc... So please listen for

> me also...After dark.....
> --

I am crystal controlled there (7050 KC rock) with the GRC-109 so am not moving around much, although I also have a 7048, 3510 (7020), 7014.8, and "3500" (7002.5). Will watch for you, but my signal is (apparently) pretty weak. I have heard and called AD4YH several times there. He barely heard me only once. Band condx haven't been worth much. I did work about 15 stations during the last contest (whatever that was) on 20, 40, and 80. Seemed to work best on 80. Pretty hard to make a high score with 3 frequencies on each band, 15 watts (max), a droopy antenna, and no time, but it was interesting anyway.

Conditions didn't seem to be so bad then, but certainly went away a day or two later.

Also, to the list and for what its worth, last night a filter cap in my HW-16 shorted out. Took two power resistors out. Then the final amp RF choke shorted to a screw sticking up too close to it....and my antenna (end fed long wire) tore loose from the top of the pine tree where I had it fastened and is drooping pretty close to the ground. Sigh...can't win for losing it seems.

I wonder if that tree service guy puts up antennas???? Lessee....where's the 'phone book?

Ken W7EKB

Date: Sat, 31 May 1997 09:10:06 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: 12AX7...

Boy, now this has got my curiousity aroused.

According to two different ARRL handbooks I have, 1977 and 1956, the 12AX7 is good for 7.5 watts output when running class B. 300 volts at 40 ma. (Further, there are differences in interelectrode capacitances in the two triodes in the envelope.) Comparing the plate sizes between this and a 6CL6, which is rated at 2.8 watts output, I can see NO way the 12AX7 can possibly put out 7.5 watts. Anyone know what this data actually means, and where it came from? I suppose if one ran TWO 12AX7s with the sections tied in parallel, in push-pull, plate dissipation capability MIGHT be enough, but by my estimate of plate size vs dissipation, there is obviously somthing screwy here.

Anyone ?

Ken W7EKB

Date: Sat, 31 May 1997 09:12:58 -0700
From: Richard Wilkerson <richqrp@cts.com>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

I have worked K7YD, Doug. From time to time on 7050 kc. He is about the only one on the group I can hear from So. Cal.
        I dont know if K7YD is on this list?   He starts some where around 0200 hrs. Z.
        Hope to work or at least Hear you guys.....

- --
        72's..... rich
Rich Wilkerson, WD6FDD, Santee, Ca.
 NorCal, ARCI, ScQRPions, E.C.R.A.

Date: Sat, 31 May 1997 11:45:52 -0500 (CDT)
From: mjsilva@ix.netcom.com (michael silva)
Subject: Re: 12AX7...

7.5 watts out of a 12AX7?! Sure enough, that's what the Handbook says! I can't believe it, though. The 12AX7 triode section is the same as in a 6AV6, which is the itty bitty dual-diode/triode use as the detector and first AF amplifier in an AA5. The triode usually runs at less than 1 mA and less than 100v on the plate in such radios. (The 12AT7, BTW, was designed for TV RF applications such as RF amps and mixers). I can't imagine considering the 12AX7 for class B -- it would be like spec'ing 6CB6s as audio output tubes. Interesting that the Handbook doesn't give class B info for the much larger 6SN7; however, it does give class B specs for the even larger 6N7, and that tube can 'only' deliver 10 watts class B. No, that 12AX7 spec can't be right...

And yet...the plates on the 12AX7A I'm looking at *are* about twice as big as on the 12AT7...

73,
Mike, KK6GM

Date: Sat, 31 May 1997 13:14:21 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: 12AX7...

On Sat, 31 May 1997 provero@connix.com wrote:

> Each section is rated for 1 watt max plate dissipation....
>
> Even for high efficiency class C, 3 watts per section would be pushing
> it.

Makes sense...BUT what the heck is with the tube tables in the ARRL handbook?

A mis-print which should read either .75 watt or 1.5 watt rather than 7.5 watts, and what about the 300 VDC at 40ma. on the plates? Two errors? Not likely. MOre likely a misunderstanding of what the tube tables are actually talking about.

Date: Sat, 31 May 1997 13:17:43 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: 12AX7...the mystery deepens!!!!

On Sat, 31 May 1997, michael silva wrote:

> 7.5 watts out of a 12AX7?! Sure enough, that's what the Handbook says!
> I can't believe it, though. The 12AX7 triode section is the same as in
> a 6AV6, which is the itty bitty dual-diode/triode use as the detector
> and first AF amplifier in an AA5. The triode usually runs at less than
> 1 mA and less than 100v on the plate in such radios. (The 12AT7, BTW,
> was designed for TV RF applications such as RF amps and mixers). I
> can't imagine considering the 12AX7 for class B -- it would be like
> spec'ing 6CB6s as audio output tubes. Interesting that the Handbook
> doesn't give class B info for the much larger 6SN7; however, it does
> give class B specs for the even larger 6N7, and that tube can 'only'
> deliver 10 watts class B. No, that 12AX7 spec can't be right...
>

Unless, those specs mean something OTHER than what we think they do. As I told another member of this list, a mis-print of 7.5 watts from either .75 watts or even 1.5 watts is possible, but what about the 300VDC at 40 ma.??????

> And yet...the plates on the 12AX7A I'm looking at *are* about twice as
> big as on the 12AT7...
>

Ken W7EKB

Date: Sat, 31 May 1997 21:18:51 +0000
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: Re: 12AX7...

At 04:45 PM 5/31/97 +0000, you wrote:
>7.5 watts out of a 12AX7?! Sure enough, that's what the Handbook says!
>I can't believe it, though. The 12AX7 triode section is the same as in
>a 6AV6, which is the itty bitty dual-diode/triode use as the detector
>and first AF amplifier in an AA5. The triode usually runs at less than
>1 mA and less than 100v on the plate in such radios. (The 12AT7, BTW,
>was designed for TV RF applications such as RF amps and mixers). I
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>spec'ing 6CB6s as audio output tubes. Interesting that the Handbook
>doesn't give class B info for the much larger 6SN7; however, it does
>give class B specs for the even larger 6N7, and that tube can 'only'
>deliver 10 watts class B. No, that 12AX7 spec can't be right...
>

I built a rig ages ago that used a 12AU7 speech amp driving a 12AX7 in class "B"
to modulate a 5763 final that ran about 15 watts input. Triad made a driver and modulation transformer set for this. A1X, M1X I think the numbers were. It worked
absolutely great! Guess the rig put out about 7-10 watts high level modulated.

Always got good audio reports!
73,
E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: 860 tubes, WL-460 tubes
Butternut HF2V antenna, G-R test gear.....*

Date: Sat, 31 May 1997 14:54:39 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: 12AX7...

> At 04:45 PM 5/31/97 +0000, you wrote:
> >7.5 watts out of a 12AX7?! Sure enough, that's what the Handbook says!
> >I can't believe it, though. The 12AX7 triode section is the same as in
> >a 6AV6, which is the itty bitty dual-diode/triode use as the detector
> >and first AF amplifier in an AA5. The triode usually runs at less than
> >1 mA and less than 100v on the plate in such radios. (The 12AT7, BTW,
> >was designed for TV RF applications such as RF amps and mixers). I
> >can't imagine considering the 12AX7 for class B -- it would be like
> >spec'ing 6CB6s as audio output tubes. Interesting that the Handbook
> >doesn't give class B info for the much larger 6SN7; however, it does
> >give class B specs for the even larger 6N7, and that tube can 'only'
> >deliver 10 watts class B. No, that 12AX7 spec can't be right...
> >
>   I built a rig ages ago that used a 12AU7 speech amp driving a 12AX7
> in class "B"
> to modulate a 5763 final that ran about 15 watts input.

For 100% modulation, that would mean 7.5 watts out of the 12AX7. Did that
rig use 2 12AX7s or just one?

> Triad made a driver
> and modulation transformer set for this. A1X, M1X I think the numbers were.
> It worked
> absolutely great! Guess the rig put out about 7-10 watts high level
> modulated.

That still means near 7.5 watts of audio. Hmmmmmmmm......as Sherlock would
say, "Watson, the game is afoot!!!!"

> Always got good audio reports!

Ken W7EKB

Date: Sat, 31 May 1997 18:14:56 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Can I do anything with these?

On 31 May 97 at 8:26, Ken Gordon spoke about Re: Can I do anything
with these? and said:

> On Sat, 31 May 1997, Brian Carling, Radio AF4K wrote:
>
> > Hi Ken,
> >
> > Looks like you have the 12AT7 and the 12AX7 mixed up.
> >
> > The 12AT7 is the more powerful of these two tubes as I recollect.
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> Don't think so. Handbook says use 100 volts on the plate of 12AT7,
> 300 on 12AX7. I have one of each in my hands at the moment. The
> 12AX7 plates are SUBSTANTIALLY larger than those of the 12AT7 and
> spaced much further away from its grids than the latter.
>
> >
> > It is often used to drive two 6L6s in audio amplifiers whereas the
> > 12AX7 is used for small signal pre-amplification at the front end.
> >
>
> I dunno about that, although it could be...for other reasons than
> plate dissipation possibly.
>
> Ken W7EKB

Yes, I don't know what the story is there Ken. The 12AX7a
is universally preferred as a pre-amp stage at very low levels like
5mV signals from a mic or pick-up, and the 12AT7 was
the STANDARD audio driver tube in all tube power audio
amplifiers built in the 1960-1974 era, including Fender etc.

They also used a 12AT7 to DRIVE the reverb pan which had low Z
transducers on each end - like 50 ohms or so as best I remember,
and the first stage AFTER the reverb pan (LOW level signal again)
is a 12AX7a. The 12AX7 is typically run at 200-250V
at about 1-2 mA of plate current in these applications.
12AT7 on the other hand is typically run up to about 10 mA or more
for line driving output levels. For some odd reason the ARRL handbook
talks about using the 12AX7 as a Class B P-P amplifier developing 7.5
watts output. Odd, since no one used them that way!

The 12AT7 has a plate resistance of 10-15 K-ohms whereas the 12AX7A
has around 62 K-ohms according to ARRL's Handbook. Again it sonds
like the 12AX7A is intended as a lower signal level pre-amplifier
with this higher resistance.

The 12AT7 has an amplification factor of 60.
The 12AX7A has an amplification factor of 100.

Best I remember the 12AU7 was kind of in between the two for most
parameters.

I am no expert but I repaired tube guitar amplifiers for 10-15 years
and saw many an amp with a 12AT7 as a phase-splitter/driver, feeding
either TWO or FOUR 6L6GTBs.

In the 1958 handbook they list numerous tubes suitable for use as a
speech amplifier - i.e. low level "input stage" bottle for right off
the mike. They list 12AX7A and 12AU7 but not 12AT7 there.

These are all still "little" tubes, like the 6C4 which can also do
some serious driver work!

Have fun Glowbuggin'! - Bry

****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the interesting ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Sat, 31 May 1997 18:14:57 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Can I do anything with these?

On 31 May 97 at 8:26, Ken Gordon spoke about Re: Can I do anything
with these? and said:

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> 12AX7 plates are SUBSTANTIALLY larger than those of the 12AT7 and
> spaced much further away from its grids than the latter.

Either tube can run at 200-250V typically. By the time it gets
through the plate load it is a bit less than that quiescently,
and can swing above and below without any problem.
****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
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****

Date: Sat, 31 May 1997 18:21:24 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: 12AX7...

On 31 May 97 at 9:10, Ken Gordon spoke about 12AX7... and said:

> Boy, now this has got my curiousity aroused.
>
> According to two different ARRL handbooks I have, 1977 and 1956, the
> 12AX7 is good for 7.5 watts output when running class B. 300 volts
> at 40 ma. (Further, there are differences in interelectrode

> capacitances in the two triodes in the envelope.) Comparing the
> plate sizes between this and a 6CL6, which is rated at 2.8 watts
> output, I can see NO way the 12AX7 can possibly put out 7.5 watts.
> Anyone know what this data actually means, and where it came from?
> I suppose if one ran TWO 12AX7s with the sections tied in parallel,
> in push-pull, plate dissipation capability MIGHT be enough, but by
> my estimate of plate size vs dissipation, there is obviously
> somthing screwy here.
>
> Anyone ?
>
> Ken W7EKB
>

Yes I thought the same thing upon reading that about 7.5 watts!

Was someone at HQ tipping the bottle a wee bit that day
I wonder?

Bry

****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
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****

Date: Sat, 31 May 1997 18:21:24 +0000
From: "Brian Carling, Radio AF4K" <bry@mnsinc.com>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

Anyone know why I am getting TWO copies of most of the messages on
GLOWBUGS?

Not that I am complaining. It just gives me more juicy GB info to
read!

On 31 May 97 at 8:33, Richard Wilkerson spoke about Re: Weekend
BA/GB/CWist funzies.... and said:

> Ken Gordon wrote:
> >
> > > > So, I will monitor 7050 and 3579 for activity, anytime after
> > > > dark.
> > >
> > > Hmmmm I called CQ quite a bit on 3579 last night but tere were a
> > > LOT of weak signals jabbering away all over 3578-3580 kHz and my
> > > peanut whistle was probably not heard. I will try daytime on
> > > 7050 kHz today and see who I can raise there. I have made one
> > > QSO on the bug so far. It's fun!
> >
> > Heard a few weak signals on 7050 and one or two strong ones. Will
> > try again tonight.
> >
> > Ken W7EKB

>   *********
>
> I have also been looking for BA's on 7050 kc... So please listen for
> me also...After dark..... --
> 72's..... rich
> Rich Wilkerson, WD6FDD, Santee, Ca.
> NorCal, ARCI, ScQRPions, E.C.R.A.
>
****
*** 73 from Radio AF4K/G3XLQ Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the interesting ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Sat, 31 May 1997 15:41:13 -0700 (PDT)
From: Ken Gordon <keng@uidaho.edu>
Subject: Re: Can I do anything with these?

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> > 300 on 12AX7. I have one of each in my hands at the moment. The
> > 12AX7 plates are SUBSTANTIALLY larger than those of the 12AT7 and
> > spaced much further away from its grids than the latter.
>
> Either tube can run at 200-250V typically. By the time it gets
> through the plate load it is a bit less than that quiescently,
> and can swing above and below without any problem.

Yes, I understand that, but what about the 40ma at 300 volts for the
12AX7 vs 250 volts at 10 ma for the 12AT7 ?

Date: Sat, 31 May 1997 17:35:11 -0600
From: Doug <doug@sunrise.alpinet.net>
Subject: Re: Weekend BA/GB/CWist funzies.....yes/no?? YES!

Hi Rich and the Gang...yep, I'm here. If things quiet down here tonight
after the lightning goes by, I'll light off the 4-1000a on 7050 around
0200z....if anyone's interested. I'd sure like to hear Bry on his
bug....I'm glad he's giving it a try.

73

Doug, K7YD
Livingston, MT

Richard Wilkerson wrote:
>
> I have worked K7YD, Doug. From time to time on 7050 kc. He is about
> the only one on the group I can hear from So. Cal.
>   I dont know if K7YD is on this list?   He starts some where around 0200
> hrs. Z.
>   Hope to work or at least Hear you guys.....
>

> --
>   72's..... rich
> Rich Wilkerson, WD6FDD, Santee, Ca.
> NorCal, ARCI, ScQRPions, E.C.R.A.

Date: Sat, 31 May 1997 20:29:38 -0400 (EDT)
From: leeboo@ct.net (Leon Wiltsey)
Subject: tubes

>To: ba
>From: leeboo@ct.net (Leon Wiltsey)
>Subject: tubes
>Cc:
>Bcc:
>X-Attachments:
>
>Hi Gang
>To all of you who emailed me a list of wanted tubes.
>situation at trhgis time, I am still running the inventory ,
>up to 2000 tubes at this point. Am going to a ham fest in
> Georga from central fl. this next week, and taking a mini vacation.
>Will not be back until about the 10th of June. I will post
>a note when I get back. I will also respond to all who
> emailed me a list.
>

68 yr old semidisabled senior
(stroke got my balance & hand to eye coordination)
ham agn as KF4RCL TECK+ (MUCH HAPPINESS)
BUILD MOST OF MY STATION EQUIP
SUB.BA & GB
(tubes that is no SOLID STATE)

Leon B Wiltsey (Lee)
4600 Lake Haven BLVD.
Sebring, Fl. 33872

SEBRING FL. THAT WONDERFUL PLACE WHERE THERE IS NO QRM
FROM ANYTHING LOCAL

End of glowbugs V1 #47
****

Created by **Steve Modena, AB4EL**
Comments and suggestions to **modena@SunSITE.unc.edu**